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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,188	11/03/2000	Andi Vonlanthen	33109	7256

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EXAMINER

ENSEY, BRIAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/706,188

Applicant(s)

VONLANTHEN, ANDI

Examiner

Brian Ensey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 14-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charpentier et al., U.S. Patent Number 5,321,758.

2. Regarding claim 14, Charpentier discloses a receiver comprising: an input for an electrical signal to be converted into a mechanical output signal, said input having an input impedance, and an impedance control input, wherein a control signal is applied to said control input for controlling said input impedance (See Figs. 1-1 and 1-2 and col. 4, lines 1-18).

Charpentier does not expressly disclose the receiver is an electrical/mechanical output converter. However, Charpentier does not limit the construction or type of receiver used and the use of electric/mechanical output transducers in hearing aid devices such as bone conduction and piezoelectric are well-known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an electric/mechanical output transducer for user's to benefit from both acoustic and non-acoustic outputs.

Regarding claim 15, Charpentier does not expressly disclose the converter has an inductive driver arrangement, said input impedance of said module comprising an impedance of said inductive driver arrangement. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would

have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 16, Charpentier does not expressly disclose the driver arrangement comprises at least two inductances, said control input controlling activation of at least one of said at least two inductances as a driver inductance. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 17, Charpentier does not expressly disclose the input impedance of the module comprises at least two discreet impedance elements, the control input to the module controlling interconnection of the at least two discrete impedance elements. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 18, Charpentier does not expressly disclose the input impedance of the module comprises at least one inductance. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 19, the input impedance of the module comprises at least two inductances, said control input controlling interconnection of the at least two inductances. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

3. Regarding claim 20, Charpentier discloses a hearing device comprising: a receiver (76) with an input for an electrical signal to be converted into an output signal, said input having an input impedance (74), said receiver further having an input impedance control input, wherein a control signal is applied to said control for controlling said input impedance (See Figs. 1-1 and 1-2 and col. 4, lines 1-18). Charpentier does not expressly disclose the receiver is an electrical/mechanical output converter wherein said electrical/mechanical output converter is included into an electrical/mechanical converter module with an input for an electrical signal to be converted into a mechanical output signal. However, the use of electric/mechanical output transducers in hearing aid devices such as bone conduction and piezoelectric are well-known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an electric/mechanical output transducer for user's to benefit from both acoustic and non-acoustic outputs.

Regarding claim 21, Charpentier does not expressly disclose the converter has an inductive driver arrangement, said input impedance of said module comprising an impedance of said inductive driver arrangement. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would

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have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 22, Charpentier does not expressly disclose the driver arrangement comprises at least two inductances, said control input controlling activation of at least one of said at least two inductances as a driver inductance. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 23, Charpentier does not expressly disclose the input impedance of the module comprises at least two discrete impedance elements, the control input to the module controlling interconnection of the at least two discrete impedance elements. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 24, Charpentier does not expressly disclose the input impedance of the module comprises at least one inductance. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 25, the input impedance of the module comprises at least two inductances, said control input controlling interconnection of the at least two inductances. However, it is well-known in the field of electronics that impedance components generally consist of resistors, inductors (coils) and capacitors. It would have been obvious to one of ordinary skill in the art at the time of the invention to use coils, at least in part, as input impedance elements for a versatile and easy method to vary impedance.

Regarding claim 26, Charpentier further a digital signal processor (100) with a control output being operationally connected to the control input. The DSP controls all the impedance variations for the receiver and provides a control output from the EEPROM to the input of the impedance control (74) (See Figs. 1-1 and 1-2).

Regarding claim 27, Charpentier does not expressly disclose the control input of the module is operationally connected to a manually operable control member. However, the use of manual controls for parameter manipulation in hearing devices is well-known in the art and it would have been obvious to one of ordinary skill in the art at the time of the invention to provide manual operation for increased operator versatility.

4. Regarding claim 28, Charpentier discloses a method of manufacturing a hearing device, comprising the step of: providing a first part of each of said hearing device with an output for an electrical signal to be electrically/mechanically converted; providing to each device an equal electrical/mechanical converter module with an input for an electrical signal to be electrically/mechanically converted, said input having an input impedance, said module having an impedance control input, wherein a control signal is applied to said control input for controlling said input impedance; operationally connecting at each device, the output of said first

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part to the input of said module; and adapting each of said module respectively to individual need of the respective device by adapting said input impedance of said module via said control input (See Figs. 1-1 and 1-2 and col. 3, line 3 to col. 4, line 49). Charpentier does not expressly disclose a setting up a group of hearing devices in a concurrent process however, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide concurrent set ups in a mass production environment for increased production capability and reduced manufacturing cost.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 703-305-7363. The examiner can normally be reached on Mon-Fri: 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 703-305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKE
April 19, 2004


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